

CLAIMS

1. A method of updating Internet access point information in the terminal equipment of a digital mobile communication system, which is capable of establishing a connection to the Internet via the mobile communication system and a number of Internet access points, **characterized** in that it comprises the steps of

storing settings of Internet access points that were used last time to access the Internet in the terminal equipment,

storing system information in the terminal equipment on the mobile communication network or on part of the mobile communication network used to access the Internet last time,

receiving broadcast system information on the mobile communication network or on part of the mobile communication network in the current location of the terminal equipment,

comparing said received system information with said stored system information,

starting a procedure for updating the stored Internet access point settings of the terminal equipment with Internet access point settings recommended for the currently used mobile communication network or for part of the mobile communication network, if it is noted on the basis of said stored and received system information that the mobile communication network or part of the mobile communication network has changed.

2. A method as claimed in claim 1, **characterized** by steps of

carrying out said comparison only when a new Internet transaction is started, and

carrying out said updating procedure before setting up a call to the Internet access point via the mobile communication system, if it is noted on the basis of said stored and received system information that the mobile communication network or part of the mobile communication network has changed.

3. A method as claimed in claim 1 ~~or 2~~, **characterized** in that said updating procedure comprises the steps of

requesting Internet access point settings from the Internet service provider's server via the mobile communication system, said request

09509102-032100

comprising system information identifying the current mobile communication system of the terminal equipment or part of the mobile communication system, receiving said request at said server

selecting in said server on the basis of system information included
5 in said request Internet access point settings suitable for the current location of the terminal equipment,

sending selected settings from said server via the mobile communication network to the terminal equipment,

receiving selected settings in the terminal equipment,
10 updating Internet access point settings of the terminal equipment with said selected settings.

b 4. A method as claimed in claim 1, ~~2 or 3~~, characterized in that said updating procedure comprises the steps of

15 sending a message requesting Internet access point settings to a message service centre, which has an access to the Internet network, said message comprising system information identifying the current mobile communication network of the terminal equipment or part of the mobile communication network,

receiving said message in said message centre,
20 sending a request for Internet access point settings from the message centre to the Internet service provider's server by using protocols of the Internet network, said request comprising system information identifying the current mobile communication network of the terminal equipment or part of the mobile communication network,

25 receiving said request in said server, selecting in said server on the basis of system information included in said request Internet access point settings suitable for the current location of the terminal equipment,

30 sending a response including the selected settings from said server to the message service centre by using protocols of the Internet network, receiving said message in the terminal equipment, updating Internet access point settings of the terminal equipment with said selected settings.

5 5. A method as claimed in claim 1, ~~2 or 3~~, characterized in
35 that said updating procedure comprises the steps of

09509102-032100

5 sending a message requesting Internet access point settings to a message service centre, which has an access to the Internet network, said message comprising system information identifying the current mobile communication network of the terminal equipment or part of the mobile communication network,

receiving said message in said short message service centre,
 retrieving the World Wide Web (WWW) page including Internet access point settings from the Internet network by using protocols of the Internet network as a response to said message sent by the mobile station,
 10 selecting Internet access point settings suitable for the location of the mobile station from the received WWW page on the basis of said system information,

15 sending a message including said selected settings from the message service centre to the terminal equipment,
 receiving said message in the terminal equipment,
 updating Internet access point settings of the terminal equipment with said selected settings.

b 6. A method as claimed in claim 1 ~~or 2~~, **characterized** by steps of

20 broadcasting messages including information on settings of the recommended Internet access point to all terminal equipment of the mobile communication network or part of it,

updating stored Internet access point settings of the terminal equipment with Internet access point settings included in said broadcast message, if it is noted on the basis of stored and received system information that the mobile communication network or part of the mobile communication network has changed.

b 7. A method as claimed in ~~any one of the preceding claims~~¹, **characterized** in that said system information is one of the following:
 30 country code, operator name, operator code, network name, network code, location area identifier.

8. A server in the Internet network, **characterized** in that the server comprises

35 means (51) for receiving a request for Internet access point settings via the Internet network from a message centre (SC), which is connected to a mobile communication network (11), said request comprising information

09509102-032100

identifying the mobile communication network or part of the mobile communication network, where the mobile station (MS) which requested settings is located,

means (52) for selecting settings of the Internet access point
5 suitable for the location of the mobile station on the basis of system information included in said request,

means (53) for sending selected settings via the Internet network to said message centre (SC) to be forwarded to the mobile station (MS).

9. A message service centre for a digital mobile communication
10 system, including a message service, e.g. a short message service centre (SC) comprising

first means (61, 66) for connecting to a mobile communication network (11) in order to transmit messages between the short message service centre (SC) and a mobile station (MS), and

15 second means (64) for connecting to a data network (12),
characterized in that

said second means (64) comprise means for retrieving settings of an Internet access point suitable for a current location of a mobile station (MS) from an Internet service provider's server (13) from the data network (12) in
20 response to a message (RIAP SMS) sent by the mobile station, the message requesting Internet access point settings, and that

the message service centre (SC) also comprises means (66) for sending Internet access point settings received from the server (13) in a message (SIAP SMS) via the mobile communication network to the mobile
25 station (MS).

10. A short message service centre as claimed in claim 9,
characterized in that the message (RIAP SMS) sent by the mobile station (MS) contains system information identifying the mobile communication network or part of the mobile communication network where the mobile station
30 is currently located.

11. A short message service centre as claimed in claim 9 ~~or 10~~,
characterized in that

said data network is the Internet network (12),

b
said second means comprise means (64) for retrieving said Internet
35 access points from the Internet server in response to the message (RIAP SMS) sent by the mobile station (MS).

09509102-032100

12. A short message service centre as claimed in claim 11, **characterized** in that

said second means comprise means (64) for retrieving the World Wide Web (WWW) page including Internet access point settings from the Internet network (12) by using protocols of the Internet network in response to
5 said message (RIAP SMS) sent by the mobile station (MS),

the message service centre also comprises means (65) for separating settings of the Internet access point suitable for the location of the mobile station (MS) from the received WWW page on the basis of the location
10 of the mobile station, and means (66) for sending the separated settings to the mobile station (MS) in a message (SIAP SMS).

13. Terminal equipment of a digital mobile communication system, which is capable of establishing a connection to the Internet network (12) via a mobile communication system (11, 17) and a number of Internet access points
15 (14, 16), and which comprises a memory in which Internet access point settings used last time to access the Internet are stored, **characterized** in that the terminal equipment (MS) comprises

a memory in which system information identifying the mobile communication network or part of the mobile communication network used last
20 time to access the Internet is stored,

means (22, 31) for receiving broadcast system information on the mobile communication network or part of the mobile communication network of the current location of the terminal equipment,

means (23, 24; 32, 33) for comparing said received system
25 information with said stored system information,

updating means (26, 34) for starting the procedure for updating stored Internet access point settings of the terminal equipment (MS) with settings of the Internet access point recommended for the currently used mobile communication network or for part of the mobile communication
30 network, if it is noted on the basis of the stored and received system information that the mobile communication network or part of the mobile communication network has changed.

14. Terminal equipment as claimed in claim 13, **characterized** in that

35 said means (23, 24) of comparison start in response to initiation (21) of a new Internet transaction, and

09509102-032100
001229-20160560

said updating means (26) are responsive to said means (23, 24) of comparison to carry out said updating procedure before setting up (27) a call via the mobile communication system to an Internet access point, if it is noted on the basis of said stored and received information that the mobile communication network or part of the mobile communication network has changed.

b 15. Terminal equipment as claimed in claim 13 ~~or 14~~, **characterized** in that said updating means (26, 34) comprise means for requesting Internet access point settings from the Internet service provider's server via the Internet, said request (RIAP SMS) comprising system information identifying the current mobile communication network or part of the mobile communication network of the terminal equipment,

means for receiving a response (SIAP SMS) including requested settings from the server via the mobile communication system, and for updating Internet access point settings of the terminal equipment with the received settings.

b 16. Terminal equipment as claimed in claim 13, ~~14 or 15~~, **characterized** in that said updating means comprise means for sending a short message (SIAP SMS) requesting Internet access point settings to the message service centre (SC), which has an access to the Internet network (12), said message containing system information identifying the current mobile communication network or part of the mobile communication network of the terminal equipment,

means for receiving a message (SIAP SMS) containing the requested settings from the message centre, and for updating Internet access point settings of the terminal equipment with the received settings.

b 17. Terminal equipment as claimed in claim 13 ~~or 14~~, **characterized** in that the terminal equipment comprises means for receiving broadcast messages containing information on the settings of the recommended Internet access point, and that

said updating means are responsive to means (23, 24, 32, 33) of comparison for updating stored Internet access point settings of the terminal equipment with Internet access point settings included in said broadcast message, if it is noted on the basis of the stored and received system information that the mobile communication network or part of it has changed.

09509102-032100
DATED "20160950"

b 18. Terminal equipment as claimed in ~~any one of claims 13-17~~, **characterized** in that said system information is one of the following: country code, operator's name, operator code, name of the network, network code, location area identifier.

- 5 19. A digital mobile communication system comprising message service and terminal equipment (MS) capable of establishing a connection to the Internet network (12) via a mobile communication system (11, 17) and a number of Internet access points (14, 16), **characterized** in that the mobile communication system is arranged to broadcast to terminal equipment
- 10 (MS) messages including settings of at least one local Internet access point, which is recommended to be used in part of the mobile communication system in question.

001220 20160560